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Expectations and achievements of UK Interns in University Based Programmes

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Abstract

Veterinary internships are a common path to career specialisation but there is a lack of standardisation of these programmes. A cohort of 23 interns at 2 academic institutions in the U.K were surveyed anonymously using an on-line survey system for their expectations and opinions at the start and end of the programme. A combination of Likert scale responses and rankings were used. Interns identified that the reputation of the programme, being university based, rotating internships and intern specific teaching as being very important when selecting their internship. Interns thought that the internship would help them to develop non-technical skills rather than practical skills when asked at the start of the programme and this was confirmed in the post-internship questionnaire. In common with recent graduates, interns identified non-technical skills as important attributes that would define a good intern. Most of the interns in university based programmes intended on entering further post-graduate training at the end of their internship. The majority of interns in these programmes would recommend internships to their peers and would repeat the experience. This is the first study to explore the expectations of interns in university based programmes.

The content and quality of veterinary internships varies, for example regarding the balance of teaching to work. (1) Recent guidelines outline how this could be better balanced (2,3). Despite the fact there is no uniformity or quality assurance of the training delivered during an internship all European and American Specialist Veterinary Colleges require a year-long rotating internship or an undefined equivalent clinical experience prior to starting a residency.

The aim of this study is to gain an understanding of what post-graduate veterinary surgeons look for, expect and currently achieve in university programmes.

Following ethical approval, twenty three interns in the 2015-16 cohort of programmes at Langford Vets and The Royal Veterinary College were surveyed. Two questionnaires (appendix 1) were designed and trialled and delivered on an on-line platform (SurveyMonkey®), accessed via an email link. Each respondent could only complete the

survey once. Questionnaire 1 was used within 1 month of starting the internship programme to explore the expectations of veterinary surgeons entering internships. Questionnaire 2 was used at the end of the internship. All answers were collected anonymously.

Questions were asked about the importance of various factors to selecting the internship, levels of agreement with statements defining success in an internship, skills they expected to and did achieve, attributes associated with being a good intern and what they intended to do at the end of the internship. The statements included in the questions were developed by the authors based upon their experience of internships over a 15-year period as well as the work by Mellanby et al (4) defining what makes a good vet.

Data from the study are presented descriptively. For statistical comparisons, a Chi-squared test was used to compare proportions. Statistical significance was set at $p < 0.05$.

The response rate was 100% to both questionnaires. A summary of the full results for the surveys is included in Appendix 2.

Questionnaire 1

Interns rated the reputation of the programme, being university based, rotating internships and intern specific teaching as being very important. (Table 1)

When assessing what constituted success within the programme statements to which the modal response was “strong agreement” included: completing the internship and being offered a residency at any centre.

A modal response of “will definitely help me develop” was seen to the following skills; confidence, knowledge about veterinary medicine and surgery, good at explaining technical terms, communication skills, patience, research skills, decisiveness, practical skills, recognizing your limitations, seeking help, knowing what can go wrong, ability to work as a team, ability to cope under pressure and keeping me up to date. Surgical skills were the only skill where the modal response was “unlikely to help me develop”.

21/23 (91.3%) interns stated that they would like pursue a residency, with the other two (8.7%) working in general practice.

Questionnaire 2

The responses to the second questionnaire were similar to those in questionnaire one. There were significant differences in 2 questions. The proportional distributions of responses to the question that success was defined as "knowing you wanted to be in clinical practice" was different ($p=0.007$). There was a mismatch between expectations and achievements in surgical skills, with the modal number of respondents (10) stating that they "took a backward step in development". The distribution of proportional responses to this question was significantly different ($p=0.027$).

At the end of their internship 3/23 (13.04%) were starting a residency, 2 were starting another internship and 2 starting a research degree. Twelve stated they will continue to apply for residences and 9 were going to general practice.

All of the respondents would recommend an internship, 21 respondents enjoyed their internship, 2 did not respond to this question.

This is the first description of expectations and achievements of veterinary internships in the UK. The two programmes had many similar structures, allowing grouping of the cohorts.

Many of the results are unsurprising but highlight the importance of reputation something that is difficult to attain or quantify. It is hoped that this data will allow interested parties to be aware of the skill set achieved during an internship. The fact that the modal number of students felt that their surgical skills deteriorated over the course of the year is disappointing but reflects the limited opportunity to perform surgical skills in our programmes. This identifies a need for programme directors to focus attention on more accurately describing potential learning opportunities or understanding of what is attainable at the start of the programme.

Most of the interns agreed with the statement that success was defined as attaining a residency. More work is needed to explore the success rate for interns to attain a residency position and the factors that are important for this.

The top 3 attributes identified were teamwork, communication and organisational skills. This aligns with the work by Mellanby et al (4) and Rhind et al (5). The importance of

communication skills as an indicator of success have also been highlighted by a recent systematic review (6).

Further work is needed to see whether stakeholder expected attributes align with those as defined by interns. Research skills were ranked at the bottom reflecting the clinical nature of these internships. In contrast research and publication are highly ranked by academic residency selection committees (personal observation).

Pleasingly all interns that responded to the question would do their internship again, demonstrating alignment between these programmes and interns' expectations.

There are limitations to this study, only two cohorts of interns at two institutions were questioned. This work need to be performed in a wider variety of intern programmes to clarify whether the expectations and achievements highlighted here are universal and whether they align to residency selection committees requirements. The questions and statements asked were based upon the opinions and experiences of the programme directors at the respective universities and there was no opportunity for free text responses. Further research is required to explore whether other unexplored competencies and factors are considered important to interns using more in-depth qualitative methods.

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Table 1

Responses to the question “In relation to how you picked your current internship, what is your level of agreement with how important the following statements are to you? Modal values are highlighted in bold

	Insignificant	unimportant	Neither important or unimportant	Important	Very important
Being a university based internship	0	0	2	3	17
Accommodation being provided	0	2	7	10	2
The value of the stipend	0	4	10	7	1
Having intern specific didactic education	0	0	2	8	12
The hospital offering a particular service	0	0	4	4	14
Being close to friends and family	2	7	5	6	2
Being close to where I live	8	8	3	3	0
Amount of out of hours work	2	5	8	6	1
Previous relationship with the university offering the programme	4	3	5	7	3
Rotating internship	0	0	1	4	17
Reputation of the programme	0	0	0	6	15
Research profile of the university	0	1	4	9	8

Table 2

Intern ranking of what makes a good intern based on previous work 'what makes a good vet' (Mellanby et al 2011).

Questionnaire 1	Questionnaire 2	Attribute
1	1	Teamwork
2	2	Communication
3	3	Organisational skills
4	4	Work ethic
5	5	Listening
6	8	Clinical problem solving
7	7	Knowledge
8	6	Clinical teaching ability
9	9	Practical skills
10	10	Assertiveness
11	11	Research skills

Appendix 1

Questionnaire 1

Q1 In relation to how you picked your current internship, what is your level of agreement with how important the following statements are to you?

Being a University based internship programme

Accommodation being provided

The value of the stipend

Having intern specific didactic education (e.g. journal clubs, rounds, seminars).

The hospital offering a particular service (e.g. neurology)

Being close to friends and family

Being close to where I live

Amount of out of hours work (nights/weekends)

Previous relationship with University offering the programme

Rotating internship

Reputation of the programme

Research profile of the University

Q2 What is your level of agreement in relation to the following statements on how you define successful internship?

Completing the internship

Being offered a residency at this University

Being offered a residency at any university, institution, or private practice

Knowing that I want to be in clinical practice

Bringing my skills back to general clinical practice

Having completed a research project

Having presented an abstract at a conference

Q3 In relation to the following attributes, how do you think that this internship will help you develop throughout the year?

Confidence

Friendliness

Knowledge about veterinary medicine and surgery

Good at explaining technical terms

Professional appearance

Compassion for patients

Compassion for owners

Communication skills

Patience
Research skills
Listening skills
Honesty
Politeness
Decisiveness
Practical skills
Surgical skills
General animal handling skills
Understanding the cost of veterinary practice
Recognising your limitations
Seeking help
Knowing what can go wrong
Ability to work in a team
Improve my patient safety
Ability to cope under pressure
Keep me up to date

Q4 Please rank the following attributes to what makes a good intern?

Knowledge
Team work
Clinical problem solving
Communication
Listening
Work ethic
Practical skills
Assertiveness
Organisational skills
Clinical teaching ability

Research skills

Q5 What ideally will you be doing this time next year?

General practice

Left the profession and retraining in another career/profession

Started a research degree (Masters, PhD)

Another internship

Residency

Holiday

Questionnaire 2

Q1 In relation to how you picked your current internship, at the end of the programme what is your level of agreement with how important the following statements are to you?

Being a University based internship programme

Accommodation being provided

The value of the stipend

Having intern specific didactic education (e.g. journal clubs, rounds, seminars).

The hospital offering a particular service (e.g. neurology)

Being close to friends and family

Being close to where I live

Amount of out of hours work (nights/weekends)

Previous relationship with University offering the programme

Rotating internship

Reputation of the programme

Research profile of the University

Q2 What is your level of agreement in relation to the following statements on how you now define a successful internship?

Completing the internship

Going into a residency at this University

Going into a residency at any university, institution, or private practice

Knowing that I want to be in clinical practice

Bringing my skills back to general clinical practice

Having completed a research project

Having presented an abstract at a conference

Q3 In relation to the following attributes, how do you think the internship helped you develop throughout the year?

Confidence

Friendliness

Knowledge about veterinary medicine and surgery

Good at explaining technical terms

Professional appearance

Compassion for patients

Compassion for owners

Communication skills

Patience

Research skills

Listening skills

Honesty

Politeness

Decisiveness

Practical skills

Surgical skills

General animal handling skills

Understanding the cost of veterinary practice

Recognising your limitations

Seeking help

Knowing what can go wrong

Ability to work in a team

Improve my patient safety

Ability to cope under pressure

Keep me up to date

Q4 Please rank the following attributes to what makes a good intern?

Knowledge

Team work

Clinical problem solving

Communication

Listening

Work ethic

Practical skills

Assertiveness

Organisational skills

Clinical teaching ability

Research skills

Q5 What is the next step in your career path?

General practice

Leaving the profession and retraining in another career/profession

Starting a research degree (Masters, PhD)

Starting another internship

Starting a residency

Will apply/re-apply for a residency in the future

Holiday

Question 6 Would you recommend the internship to your friends and colleagues?

Yes (if they were interested in a residency)

Yes (if they were unsure about the next step in their career)

Maybe depending on the person

No

Question 7 Did you enjoy your internship? (All things considered would you do it again?)

Appendix 2

Questionnaire responses

Question 1

In relation to how you picked your current internship, what is your level of agreement with how important the following statements are to you? Answers from questionnaire 2 are in italic

Modal responses are in **bold**

	Insignificant		Unimportant		Neither important or unimportant		Important		Very important		Total	
Being a University based internship programme	0	<i>0</i>	0	<i>0</i>	2	<i>1</i>	4	4	17	18	23	23
Accommodation being provided	0	<i>0</i>	2	<i>1</i>	7	<i>5</i>	10	12	3	5	22	22
The value of the stipend	0	<i>0</i>	4	<i>2</i>	10	<i>8</i>	8	10	1	3	23	23
Having intern specific didactic education (e.g. journal clubs, rounds, seminars).	0	<i>0</i>	0	<i>0</i>	2	<i>0</i>	8	8	13	15	23	23
The hospital offering a particular service (e.g. neurology)	0	<i>0</i>	0	<i>1</i>	4	<i>3</i>	4	8	15	11	23	23
Being close to friends and family	2	<i>2</i>	7	<i>5</i>	5	9	7	7	2	<i>0</i>	23	23
Being close to where I live	8	<i>5</i>	8	10	3	<i>6</i>	4	<i>1</i>	0	<i>1</i>	23	23
Amount of out of hours work (nights/weekends)	2	<i>2</i>	5	<i>4</i>	9	<i>7</i>	6	9	1	<i>1</i>	23	23
Previous relationship with University offering the programme	4	<i>1</i>	3	<i>7</i>	5	<i>6</i>	7	9	4	<i>0</i>	23	23
Rotating internship	0	<i>0</i>	0	<i>0</i>	1	<i>0</i>	5	3	17	20	23	23

Reputation of the programme	0	<i>0</i>	0	<i>0</i>	0	<i>0</i>	6	4	16	18	22	22
Research profile of the University	0	<i>0</i>	1	2	4	2	10	11	8	8	23	23

Question 2

What is your level of agreement in relation to the following statements on how you define successful internship? Answers from questionnaire 2 are in italic

Modal responses are in **bold**

	Strongly disagree		Disagree		Neither agree nor disagree		Agree		Strongly Agree		Total	
Completing the internship	0	<i>0</i>	1	<i>0</i>	1	<i>0</i>	3	6	18	17	23	23
Being offered a residency at this University	1	3	1	3	0	6	11	5	10	6	23	23
Being offered a residency at any university, institution, or private practice	0	2	1	2	0	5	11	6	11	8	23	23
Knowing that I want to be in clinical practice	1	<i>1</i>	2	3	3	2	9	10	8	7	23	23
Bringing my skills back to general clinical practice	1	<i>0</i>	2	2	6	4	8	11	6	6	23	23
Having completed a research project	0	<i>0</i>	2	5	6	3	12	10	3	5	23	23
Having presented an abstract	1	<i>1</i>	3	4	7	6	9	5	3	6	23	23

at a conference												
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Question 3

In relation to the following attributes, how do you think that this internship will help you develop throughout the year? Questionnaire 2 answers are in italics

Modal responses are in **bold**

	Won't help me develop		Unlikely to help me develop		Won't be positive or negative to my development		Likely to help me develop		Will definitely help me develop		Total	
Confidence	0	<i>2</i>	0	<i>1</i>	1	<i>2</i>	10	<i>8</i>	12	10	23	<i>23</i>
Friendliness	0	<i>0</i>	0	<i>0</i>	7	10	10	<i>6</i>	5	<i>7</i>	22	<i>23</i>
Knowledge about veterinary medicine and science	0	<i>0</i>	0	<i>0</i>	1	<i>0</i>	0	<i>8</i>	22	15	23	<i>23</i>
Good at explaining technical terms	0	<i>0</i>	0	<i>0</i>	2	<i>3</i>	9	14	12	<i>6</i>	23	<i>23</i>
Professional appearance	0	<i>1</i>	0	<i>0</i>	14	16	5	<i>2</i>	4	<i>4</i>	23	<i>23</i>
Compassion for patients	0	<i>0</i>	1	<i>3</i>	6	12	10	<i>4</i>	6	<i>4</i>	23	<i>23</i>
Compassion for owners	0	<i>0</i>	2	<i>4</i>	7	10	9	<i>5</i>	5	<i>4</i>	23	<i>23</i>
Communication skills	0	<i>1</i>	0	<i>1</i>	3	<i>1</i>	7	10	13	10	23	<i>23</i>
Patience	0	<i>0</i>	0	<i>0</i>	4	<i>3</i>	9	10	10	10	23	<i>23</i>
Research skills	0	<i>0</i>	1	<i>2</i>	0	<i>4</i>	7	11	15	<i>6</i>	23	<i>23</i>
Listening skills	0	<i>0</i>	0	<i>0</i>	2	<i>6</i>	12	13	9	<i>4</i>	23	<i>23</i>
Honesty	0	<i>0</i>	0	<i>0</i>	9	13	<i>7</i>	<i>7</i>	7	<i>3</i>	23	<i>23</i>

Politeness	0	<i>0</i>	0	<i>0</i>	9	16	7	3	7	4	23	23
Decisiveness	0	<i>1</i>	1	3	5	5	8	5	9	9	23	23
Practical skills	0	<i>1</i>	4	3	0	3	8	9	11	7	23	23
Surgical skills	2	10	9	7	3	4	8	2	1	<i>0</i>	23	23
General animal handling	0	<i>0</i>	1	1	4	6	13	10	5	6	23	23
Understanding the cost of veterinary practice	0	<i>0</i>	6	4	4	6	8	10	5	3	23	23
Recognising your limitations	0	<i>0</i>	0	1	2	2	10	12	11	8	23	23
Seeking help	0	<i>0</i>	0	<i>0</i>	3	5	10	11	10	7	23	23
Knowing what can go wrong	0	<i>0</i>	0	<i>0</i>	3	1	8	5	12	17	23	23
Ability to work in a team	0	<i>0</i>	0	<i>0</i>	2	4	5	9	16	10	23	23
Improve my patient safety	0	<i>0</i>	0	1	3	3	12	13	8	6	23	23
Ability to cope under pressure	0	<i>1</i>	0	<i>0</i>	3	4	6	9	14	9	23	23
Keep me up to date	0	<i>0</i>	0	1	0	<i>0</i>	3	6	20	16	23	23

Question 4

Please rank the following attributes to what makes a good intern? Questionnaire 2 results in italics

Attribute	Averaged ranking (/11)	
Knowledge	5.48	<i>5.00</i>
Team work	9.30	<i>9.00</i>
Clinical problem solving	6.50	<i>4.70</i>

Communication	8.86	8.35
Listening	6.83	6.35
Work ethic	7.26	6.78
Practical skills	4.57	4.57
Assertiveness	3.74	4.43
Organisational skills	7.39	8.17
Clinical teaching ability	4.74	5.87
Research skills	1.65	2.78

Question 5

What ideally will you be doing this time next year?

	Number
Residency	21
General practice	2

Questionnaire 2 responses

Question 5

What is the next step in your career path? Interns were able to pick more than one answer

	Number of interns choosing response
General practice	9
Starting a research degree (Masters, PhD)	2
Starting another internship	2
Starting a residency	3
Will apply/re-apply for residency in the future	12
Holiday	5

Question 6

Would you recommend the internship to your friends and colleagues? Interns were able to pick more than one answer

	Number of interns choosing response
Yes (if they were interested in a residency)	20
Yes (if they were unsure about the next step in their career)	11
Maybe depending on the person	5
No	0

Question 7

Did you enjoy your internship (all things considered would you do it again?)

	Number of interns choosing response
Yes	21
No	0
Unanswered	2